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The Tree Peony

By DONALD G. GRAHAM

(President of the University of Washington Arboretum Foundation and one of the outstanding amateur gardeners of the Pacific Northwest.)

APPARENTLY *paeonia moutan*, the tree peony, is as rare as it is beautiful in American gardens, judging from the comments of visitors to the writer's garden. Why this should be, I cannot understand, as it is hardy (except in the coldest parts of the country) and culturally the plant offers no particular difficulty. In floral splendor it compares very favorably with the spectacular rhododendron hybrids of English and Dutch origin. Reginald Farrer termed it "the most overpoweringly superb of hardy shrubs." In the Pacific Northwest it blooms in April and May in great profusion and with striking garden effect. The range of colors comprises white, pink, salmon pink, varying shades of red from the deepest crimson to watermelon pink, deep purple and magenta. A well established plant will be three or four feet high and as much across, with blooms almost hiding the foliage. The blooms are from six to 12 inches across, depending upon the variety. It is to be hoped that American nurserymen will find it possible to offer these glorious plants at reasonable prices. The Japanese have evolved a system of propagation which is very successful and quite cheap, judging, at least, by the prices at which tree peonies are obtainable in Japan.

To those who are patient, raising tree peonies from seed is very satisfactory. Hand pollinated seed can be purchased in Japan. In this climate, seeds should be sown as soon after gathering as possible, and in any event, not later than the following fall. This will insure their rapid germination the coming spring. Sowing is best done in a box of very sandy soil which can be kept moist and protected from freezing in early spring. Seedlings should be transplanted a few weeks after sprouting. They should be handled carefully and in no event should any fertilizer be used on or near the newly transplanted seedlings. Some of the seedlings will bloom the third year and if seed from good stock is obtained, a fair proportion of worthwhile types can be expected.

Tree peonies offer no complicated cultural problems. They like a rich, well drained soil, but even a heavy soil will be satisfactory. They are gross feeders and it is advisable to apply a top dressing of well rotted manure every other year in the fall. Too much fertilization is undesirable as it may produce soft growth, subject to disease. They should have a plentiful supply of moisture, particularly during early spring. It is advisable to plant in a position that will be sheltered from morning sun which injures new growth in localities in which late spring frosts occur.

The only serious disease is botrytis, which may attack the plant in damp weather. If this should happen, the diseased

parts should be cut off and burned. It is advisable to use a bordeaux spray at the rate of two pounds of bordeaux to 10 gallons of water, thoroughly sprayed on the plant and the ground around it just as growth starts in the early spring. Applying the same solution half strength just before the buds open and again after flowering also gives beneficial results in controlling botrytis.

Moving blooming sized plants is best done in the early fall as root wounds quickly heal at that time. However, moving even as late as December is possible, although the blooms will be affected by such a moving the following spring. (Plants imported from Japan usually are shipped in December, arriving in this country some time in January. They do not ordinarily bloom that spring but by the following year practically all imported plants have survived and make a good display.)

The pruning of the tree peony is quite necessary to permanent success with the plant. In spite of the word "tree", the tree peony has more of the attributes of an herbaceous plant than a shrub. After many years of experience, the Japanese have evolved a system of pruning that is radically different from any I have ever heard advocated in this country. I have followed their system for a sufficient time to convince me that it is much preferable to allowing the plant to grow freely. The Japanese consider that the plant does not have sufficient root pressure to allow them to become tall and leggy. They attempt to keep the plant as low as possible by judicious pruning to encourage numerous flowering shoots from the ground and to maintain vigor. Pruning should be started the first year the plant is purchased from a nursery (these are usually two or three-year-old plants from grafts), and from the first year the plant blooms, if from seed. Every shoot should be pruned as low as possible, leaving two or three leaves on each shoot at its base. New buds form at the base of the leaf on each shoot, and leaving this number of buds will insure ample new growth for the following year's bloom. This pruning should be done after the flowers are finished in May. In the case of old plants that are three feet or more in height by reason of this system of pruning not having been followed, and every four or five plants in the case of plants which have been pruned as above suggested, the plants should be left without pruning in the spring, but at the end of August drastic summer pruning should be made. These plants should be pruned as low as possible at the base of the plant just above soil level, so long as two or three buds (even very small buds are sufficient) are left on the plant. When this summer pruning is done, some of the plants will not flower the next spring, but they will again resume flowering the following year.

I cannot urge too strongly upon those who grow tree peonies that they follow the above suggestions as to pruning. This will cause numerous shoots to break from the ground and while the plants will not be tall, they will attain a greater breadth and flower more profusely. Furthermore,

they will be less apt to be subject to botrytis and will be longer lived.

Regarding pot culture and forcing, these plants lend themselves well to pot culture and to forcing in a greenhouse. If the plants are intended to be forced, potting should be done during the early part of September so as to have the roots well started by late fall. Potting soil should consist of rich loam, leaf mold, sand and well rotted stable manure. Weak liquid manure should be given after the roots are well started. As soon as cold weather starts in December, the plants intended to be forced should be placed in a frame or greenhouse, but high temperature should not be given from the start; otherwise blind shoots will result. Care should be taken to raise the temperature by gradual steps to simulate the successive steps of milder weather in the spring. When taking forced plants out of the greenhouse, it is necessary to harden them off in a lower temperature; otherwise, the forced plants and blooms will wither when taken out of the greenhouse.

All seed pods should be removed from tree peonies before they are ripe, immediately after flowering, this for the same reason that rhododendrons are deseeded after blooming. Withered flower petals should be removed from the plants and from the ground around them.

In Japan, both tree peony and herbaceous peony roots are used for grafting stock. The plants grafted on tree peony stock are at first vigorous, but require a great deal of attention to make them survive for many years, and to establish they require exceptionally good drainage and at the same time sufficient moisture, as the tree peony stock does not stand a long drought or stagnant moisture. Furthermore, it is difficult to distinguish suckers when grafted on tree peony stock. It is therefore advisable to require tree peonies that are purchased, to be on the roots of the herbaceous peony.

Pieces of roots from a clump of herbaceous peony are not suitable for grafting stock. Three-year-old seedlings should be used. Grafting is best done in the early fall, about September 1st if possible. The newly grafted stocks need not be placed in a greenhouse. They can be planted outside in this climate, eight inches apart, and should be covered with pots for several weeks. When cold weather begins, two or three inches of soil should be heaped up around the plants keeping the stock and point of union well covered with soil.

Arboretum Units

By MRS. CARL BALLARD, *Unit Chairman*

IN the fall of 1938 it was decided that one of the best methods of encouraging members to take advantage of our Arboretum was to form units which would meet in the four yearly seasons.

These units, the first of which was formed in December, 1938, aroused a tremendous interest in the program of the Arboretum, and, by June, 1939, nine units had been formed. This number steadily increased until by June of this year there were 17 units, two of which had been organized outside of Seattle.

Some of the units arrange to have speakers on such subjects as landscaping, flower arrangement, birds, shrubs, or plants; others prefer to discuss garden problems of their own and to plan their gardens for seasons to come. A unit council meeting is held on the Thursday before each meeting, at which time a bulletin specially written for the units is given out.

Each unit has a conducted tour through the Arboretum at least once a year. Membership in the organization also gives each member the privilege of receiving excellent

plants and seeds whenever there is a distribution of surplus plant material at the Arboretum. Thus last year, for example, when 7,000 plants were given away, unit members were informed of the supply and were able to choose many lovely plants for their gardens.

Ten members may form a unit and we think it advisable not to exceed 30 because so many units enjoy having luncheon meetings. Our experience with the majority of units has been that, once started, they have had more requests for membership than could be accommodated, and so the nucleus for another unit would be formed. It is interesting to note that Unit 4 is entirely a men's group and Unit 10 is of couples—husbands and wives—who have dinner and evening meetings.

The best method of forming a unit is to organize a group of congenial people. The Arboretum membership will entitle these people to unit membership without any extra fee. If arrangements are made far enough in advance with the Arboretum office (SE. 0920 from 8 a. m. to 12). Dr. Hanley or I will be glad to assist you with your organization.

Chrysanthemums

By MRS. GEORGE T. WILLIAMS

(*Chrysanthemum Authority and a Director of the Arboretum Foundation.*)

BY common consent the chrysanthemum has been acknowledged the queen of autumn flowers. Its varied range of types, forms, and colors, its exceptional keeping qualities as a cut flower, and its bright showing in the garden when most other flowers' blooming period is past, endear it to every garden lover.

It is said to be one flower which can be grown by an artisan amateur to compete with one grown by the duke's gardener.

The history of the chrysanthemum has been told many times but the main points will not be amiss here. The original species from which the great family has been built up are the simple little composite *c. indicum* and *c. sinensis*, and we know that China was the home of the flower where it was worshipped by the Chinese of centuries past. Plants reached Holland sometime in the 17th century and there is a record of a large-flowered variety having been imported to France from China in 1789. By 1820 a dozen named varieties were in cultivation in England and six years later this number was quadrupled. Growers in both this country and abroad are improving the varieties each year, and perhaps the most interesting at present are the Early English varieties blooming from July until November. I am convinced that it is the best to have the blooming period start in the middle of August or first of September as they do not like the hot summer sun when in full bloom. Some varieties throwing a few blooms early in no way resemble those blooming on the same plant a month later. They like the cool moist nights and early rains of autumn. Best results are had if planted in full sun as shade tends to produce leggy plants and few blooms.

Chrysanthemums can be grown by division or by cuttings rooted in sand. Where large specimen flowers are desired, sand-rooted cuttings make the best plants as the softer wood takes up the extra fertilizer given during the budding stage of the plant. If divisions are used, select those with no old wood and with some new healthy root growth. Plant in good growing soil with a tablespoon of super-phosphate and bone meal to each plant. Liquid fertilizer can be given if the plant seems to need extra food. Never allow the plants to get dry. I use overhead sprinkling during a hot day, it does wonders for the plants. It is safer to put

plants in a cold frame during the winter, though if the soil is well drained and some boughs other than fir are laid on the plants during the worst of the freezing, most varieties will winter satisfactorily.

If planting in a row in the cutting garden, give plenty of space. I plant two feet apart in rows three feet apart, staking between each plant and tie each plant separately as often as necessary. A well grown plant should produce armfuls of flowers. Pinch back young plants when 10 or 12 inches high to encourage branching. Some can be pinched back twice if inclined to grow tall and not throw enough lateral branches. If spray varieties are grown, no buds need be removed but even with these the center bud may be rubbed out and a more graceful effect can be had. In the larger flowering garden varieties, thinning, that is removing the smaller buds, can be done to good advantage, thus getting larger flowers and longer and stiffer stems.

Growing the larger exhibition varieties is quite a steady season's job as extra feeding is required and it is necessary to keep off all lateral growth, thus forcing all the strength into the growing bud. The hardest battle is to combat the insect known as a hopper which stings the stem of the bud causing the flower to be one-sided. I have found no other way of eradicating these pests other than 'hand-picking' early in the morning after a cool night when he is not quite so active. If a late bud, known as a terminal bud, is kept, the hopper cycle seems to have passed and the percentage of perfect flowers is much higher. It is quite a thrill to grow a perfect 10-inch flower but for most purposes the garden enthusiast will enjoy most the spray varieties which bloom early enough to escape freezing. These will stand the usual fall rains while the larger ones would require some sort of waterproof covering to protect them.

Some good varieties in the Early English are:

White: September White, Snowfall, Debutante, Snowflake, R. A. Roots.

Pink: Meridian, Helen Thorpe, Sybil, Shirley Pride, Silver Queen, Salmon Freda, Rose Precose.

Purple: Litchfield Purple, Mrs. John Philip, Petunia, Purple King, Zenith.

Yellow: Hillcrest Yellow, Kingcup, Geo. MacLeod, Mrs. W. D. Cartwright, Sunbeam.

Bronze and Amber shades: Bronze Early Buttercup, Salmon Queen, Halo, Mary Hobbs, Harmonious, Bronze Freda, Mrs. Wm. Whyte, Mystic Bronze, Glenroy.

An easy to grow and profusely blooming variety, mostly single, is the new Korean. These are very hardy and grow readily from seed, blooming as soon as the plants grown from divisions or cuttings.

Some satisfactory large exhibition types are the Turners, white, pink, and yellow; Thos. W. Pockett, pink; Wm. Waite, bronze; Chrysalora, yellow, and lovely quilled type in orchid pink called Patricia Grace is much admired.

The present season has been a test for the early bloomers owing to the unusually hot, dry summer. By later planting and pinching back twice the blooming period can be delayed somewhat.

Primulas in the Pacific Northwest

By IDA SCHIBIG

(An authority on Primrose culture.)

(Continued from August issue.)

Bog Primulas

THE species under the general heading of Bog Primulas should be the most important rank of the entire clan in our Northwest gardens because they are hardy perennials not too exacting as to culture and are spectacularly beautiful and have great merit as plant material that can be used

in the natural setting and garden design that typifies our North Pacific Slope. This range of plant material is tremendous, covering several sections of the botanical classification of the genus, and the species range from the rampant low growing *P. Juleae* in a remarkable array of color, to the sturdy *Candelabra*, *P. japonica*, which is the type plant of that section. Their botanical names are really their greatest difficulty, for, given any moist rich loam in partial shade, they do well for themselves and can be grown in any garden having those conditions. However, the ideal site is along a stream with their feet in the trickling water, or where there is a meadow bog that has ample drainage so as not to be stagnant. It is in these situations that they grow in their native home on the edge of forests in the Himalayan Mountains and in Yunnan. Because of the strength of character they possess they are especially attractive when interplanted in drifts among bamboo, rhododendron and rock, particularly on a wet, gently sloping bank.

The low-growing floriferous *P. Juleae* of the Vernalis section, is desirable when allowed to spread on a moist, sunny rockery. The hybrids of the original luminous purple crimson *P. Juleae* are legion and for those who prefer the less startling colors there is Spring Beauty, which is a delicate lavender: Dusty Pink, as the name implies, and *Juleae alba*, a pure white. The *Juleae* hybrids have such diverse colorings that they should be grown more as it would be refreshing to see them planted along with the older types, *Wanda* and *Helenae*.

P. Rosca is the representative plant of the *Auriculatae* section that requires boggy conditions. It does best in sun in plenty of well-drained moisture. The true rose color of the blossom and the tuft of small, glossy leaves makes this plant a fine acquisition in a collection of bog Primulas.

The *Sikkimensis* group should be represented in our gardens by *P. Florindae*, a magnificent giant among Primulas, and *P. sikkimensis* of hardy garden constitution. *P. Florindae* has sulphur yellow flowers and the leaves are large and heart shaped. *P. sikkimensis* also has yellow flowers, but of a softer, lighter tone.

The *Candelabra* section has about thirty species and subspecies and countless hybrids of every color and shading in the spectrum. Their leaves are similar to the common Primrose in shape and from the center of the foliage arises a tall scape on which are round whorls of flowers spaced at intervals. They will do well in ordinary conditions, providing they have some shade and moisture, but to grow them where they are really happy, with a magnificence of flower and foliage, is along a running stream where their roots may flourish in the water.

P. Japonica is one of the best known *Candelabras* but there are many poor colors as they cross pollenize so readily and the progeny is not always attractive. These should be discarded for the several good hybrids. For example, Sir George Thursby, Rose du Barri and *Japonica alba*.

The *Bullesiana* hybrids are a cross between *P. beesiana* and *P. bulleyana* and include some lovely clear colors of orange, salmon, pink and yellow.

P. pulverulenta is an outstanding species in that the entire plant is covered with meal and is the parent of some very fine hybrids.

A complete list of all the species and hybrids of the Bog Primulas would be a long one, but much longer still would be the list of all the species of the genus *Primula* that should be grown in our Northwest gardens. This particular field of gardening holds no limitations for us and in the not too far distant future our North Pacific Slope should be the Primrose garden of the world.

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